

DQ2 0.3 SiteServices

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Outline

- SiteServices Installation
- Operation
- LRC Impacts
- Management

SiteServices Installation

- Installation Instructions

- <http://dashb-build.cern.ch/ddm/build/stable/doc/guides/dq2-siteservices/html/admin/index.html>

- ☐ OSG specific recommendations/additions shown later

- USATLAS TWiki page for documenting progress

- <http://www.usatlas.bnl.gov/twiki/bin/view/Admins/DQ2SiteServicesP1>

- usatlas-ddm-l@lists.bnl.gov

- Pre-installation Checklist

- ☐ Different machine from LRC

- ☐ RHEL4/SL4/SLC4

- ☐ MySQL 5.1

- See section 2.6 for /etc/my.cnf

- ☐ APT

Installation (cont.)

- **As root**

- `$ apt-get check`

- `$ apt-get -f remove`

Add gLite/DQ2 repositories to apt configuration (see instructions)

- `$ apt-get update`

- `$ apt-get install dq2-siteservices`

- `$ apt-get install fetch-crl`

- `$ apt-get install lcg-CA`

Configuration

- MySQL account for running DQ2

- OSG recommendation Step 2.6:

- Don't use `dq2user/dqpwd`

- Don't need:

- ```
GRANT ALL PRIVILEGES ON _dq2.* TO
'$DBUSER'@'%' IDENTIFIED BY '$DBPWD';
```

```
$. /opt/dq2/profile.d/dq2_post_install.sh
```

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# Configuration

- OSG Recommendation:

- Remove world readable config files
- After running `dq2_post_install.sh` but before modifying config files do:

```
$ chown -R <u>.<g> /opt/dq2/etc
```

```
$ chmod -R o-r /opt/dq2/etc
```

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# Organization

- /opt/dq2/
  - bin/ contains dq2 client commands
  - etc/ contains configuration files
  - profile.d/ contains source file
  - doc/ html documentation
- /opt/glite FTS clients / glite-gridftp-mkdir
- /opt/lcg LFC client
- /opt/globus VDT 1.2.2 as released by gLite
- /opt/dashboard Dashboard services (not ARDA)
- /usr/lib/python2.3/site-packages/dq2 Code

# Site Customizations

- Login as <u>.<g>  
■ Provide contact string for \_dq2 write account  
*/opt/dq2/etc/dq2-agents/dq2-agents.cfg*  
dbconnection=mysql://<acct>:<pw>@localhost/\_dq2
- Provide contact string for LRC write account  
*/opt/dq2/etc/dq2-info/dq2-info.cfg*  
catalog\_<SITE>=mysql://<l\_acct>:<l\_pw>@<l\_host>:3306/localreplicas
- Provide MyProxy Password  
*/opt/dq2/etc/dq2-transfertool-fts/dq2-transfertool-fts.cfg*  
defaultMyProxyPassword=<myproxy\_pw>
- Provide site name(s) to be served  
*/opt/dq2/etc/dq2-service-fetcher/dq2-service-fetcher.cfg*  
sites=UTA\_TEST1,UTA\_SWT2



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# Site Customizations (cont.)

- Provide override for storage location [OPTIONAL]

*/opt/dq2/etc/dq2-info/dq2-info.cfg*

```
srm_<SITE>=gsiftp://<gatekeeper>/different/path/
```

- Alter storage location by dataset pattern [OPTIONAL]

*/opt/dq2/etc/dq2-agents-subscription/dq2-agents-subscription.cfg*

```
storagePattern={'.*AOD.*':
 '<protocol>://<host>/different/path/AOD/'}
```

This is a Python dictionary where regular expressions (re module) are keys and storage URL's are values

- Create script file *~/setup.sh* for <user> and source it

```
export X509_USER_PROXY="/tmp/x509up_u`id -u`"
export MYPROXY_SERVER="myproxy.usatlas.bnl.gov"
export http_proxy=some.host.name
source /opt/dq2/profile.d/dq2_env.sh
```

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# Starting Service

- **FIRST TIME ONLY**

```
$ dq2site-recreate-database
```

- **Proxies (30days):**

```
$ grid-proxy-init -valid 720:00
```

```
$ myproxy-init -d -c 720
```

- **Normal operation:**

```
$ dashb-agent-start dq2udpserver
```

```
$ dashb-agent-start dq2agents
```

```
$ dashb-agent-start dq2fetcher
```

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# Stopping Services

```
$ dashb-agent-stop dq2fetcher
$ dashb-agent-stop dq2agents
$ dashb-agent-stop dq2udpserver
```

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# Catalogs Clients

- DQ2 0.2.12 used dq2 command with operation as parameter
- DQ2 0.3 uses separate commands:
  - Dq2-register-subscription
  - Dq2-delete-subscription
  - Dq2-list-dataset
  - See /opt/dq2/bin

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# Logging

- Logging is less specific than 0.2.X
- Default configuration puts log in /opt/dq2.log
- Override in */opt/dq2/etc/logging.cfg*

```
logging.cfg:args=('/tmp/dq2.log','a',1000000000,5)
```

- ARDA Monitoring is using test instance at:

<http://dashb-atlas-data-test.cern.ch/dashboard/request.py/site>

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# Outstanding Issues

- Allowing subscriber to specify share
- LFC client is generating spurious output to shell
- DQ2 logs contain warning about proxy
- Location of dashboard lock files
- Dashb-agent-stop sometimes fails
- Agents can take some time to stop
- PFN's might be renamed; leaf no longer LFN

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## Where we are today (6/22)

- BNL PANDA, BU, AGLT2, UTA\_SWT2, SLACXRD have latest code
- UTA\_SWT2 in production, but ...
- Serious problem seems to exist with how DQ2 is handling Panda's sub datasets
- Can't resume AOD replication
- Much more testing is needed

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# LRC implications

- New LRC being developed
- Most locations using existing LRC's
  - LRC coupled to a DQ2 0.2.12 installation
  - Sites that rotate NFS storage need to change files on multiple machines
- Installing the current LRC, via pacman, needs to be fixed



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# Site Management

- DQ2 schedules data movement
- DQ2 does not manage the storage location
- Quotas don't provide mechanism for this
  - What if production system is at quota?
- How to decide what to delete?
- How to automate this so that production can stay below some cap?
- How to manage this for users/groups

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## cleanse.py

- Walks filesystem; takes leaf names as LFN
- Looks for LFN in local LRC and BNL LRC
- Respects archival flag of local LRC
- Deletes files that are replicated at BNL if downloaded more than 5 days ago

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# cleanse.py

- Drawbacks:
  - ❑ Slow: Not using bulk methods for LRC lookups
  - ❑ Deletes LRC first then physical copy
  - ❑ Not aggressive
    - Files not in local LRC are not deleted
      - ❑ Proposing 3 day limit
    - Files not in BNL LRC are not deleted
      - ❑ Proposing 3 week limit
  - ❑ Not particularly intelligent
    - Deletes as many files as possible
    - Doesn't order files

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# deleteDatasetLocal.py

- Deletes a named dataset from storage/LRC
- Issues:
  - Does not respect archival flag?
  - Needs to be updated for dq2 0.3

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# Aborted datasets

- How to delete these from Tier 2's
- Alexei maintains list of datasets that have been aborted
- Wensheng maintains list of guid's that could be at T2
- Several options:
  1. Use deleteDatasetLocal.py by getting dataset names from Alexei's db
  2. Modify cleanse.py to gather list from Wensheng's DB
  3. Have Wensheng's script overload archival flag; modify cleanse.py to delete "D" flags
  4. Modify cleanse.py as mentioned before to delete files not at BNL

My vote is 4

If BNL deletes their file/LRC entry, a copy at Tier2 would be available for deletion within 3 weeks